

University of Nebraska - Lincoln

DigitalCommons@University of Nebraska - Lincoln

USGS Northern Prairie Wildlife Research Center

US Geological Survey

2007

First Record of *Corisella inscripta* (Uhler) (Heteroptera: Corixidae) from North Dakota

Bruce A. Hanson
U.S. Geological Survey

David M. Mushet
U.S. Geological Survey, dmushet@usgs.gov

Ned H. Euliss Jr.
U.S. Geological Survey, ceuliss@usgs.gov

Steve W. Chordas III
Ohio State University - Main Campus

Follow this and additional works at: <https://digitalcommons.unl.edu/usgsnpwrc>

Hanson, Bruce A.; Mushet, David M.; Euliss, Ned H. Jr.; and Chordas, Steve W. III, "First Record of *Corisella inscripta* (Uhler) (Heteroptera: Corixidae) from North Dakota" (2007). *USGS Northern Prairie Wildlife Research Center*. 263.

<https://digitalcommons.unl.edu/usgsnpwrc/263>

This Article is brought to you for free and open access by the US Geological Survey at DigitalCommons@University of Nebraska - Lincoln. It has been accepted for inclusion in USGS Northern Prairie Wildlife Research Center by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.

FIRST RECORD OF *CORISELLA INSCRIPTA* (UHLER) (HETEROPTERA: CORIXIDAE) FROM NORTH DAKOTA -- *Corisella inscripta* is a water boatman species that was reported in H. B. Hungerford's (1948) seminal monograph as occurring throughout Mexico and nine western states of the United States. Subsequently, additional records of *C. inscripta* have been reported for British Columbia in Canada (Maw et al. 2000) and for Montana (Roemhild 1976), Arkansas (Cochran and Harp 1990), Missouri (Polhemus et al. 1988), Ohio (Chordas and Armitage 1998), and Michigan (Chordas et al. 2002) in the United States. There have been no published records of *C. inscripta* from North Dakota (Fig. 1).

We collected one male *C. inscripta* at the Cottonwood Lake Study Area in western Stutsman County, North Dakota in September 2005 and a second individual there in September 2006. The specimens were captured in funnel traps (Swanson 1978) set in the deep-marsh zone of a semipermanent wetland (Stewart and Kantrud 1971). A detailed description of the Cottonwood Lake Study Area is published in Swanson et al. (2003). As is typical for wetlands in the northern Great Plains, this wetland has fluctuated between wet and dry phases. At the time of sampling, the wetland was in the lake marsh phase (van der Valk and Davis 1978) and had been flooded continuously for 13 to 14 years, during an unusually long period of above-normal precipitation (Winter and Rosenberry 1998). In 2005, the water temperature was 18°C and specific conductance was 3011 $\mu\text{S cm}^{-1}$ at the collection site where the first *C. inscripta* specimen was collected. In 2006, water temperature was 14°C and specific conductance was 4010 $\mu\text{S cm}^{-1}$ at the site when the second *C. inscripta* specimen was collected. Both emergent and submergent aquatic vegetation were absent at the sample locations and throughout most of the wetland due to the prolonged deep-water flooding. However, stands of emergent vegetation including broadleaf cattail (*Typha latifolia*), hardstem bulrush (*Schoenoplectus acutus*), common rivergrass (*Scolochloa festuacea*), and wheat sedge (*Carex atherodes*) occurred around the wetland edge.

Only one other species of *Corisella*, *C. tarsalis* (Fieber), is known to occur in the Prairie Pothole Region of the northern Great Plains (Euliss et al. 1999). *Corisella inscripta* males are easily distinguished from *C. tarsalis* males by the stout, erect pegs below the apex of the tibia and on the pala of *C. tarsalis* (Fig. 2). The *C. inscripta* specimens reported here from the Cottonwood Lake Study Area are conserved in the aquatic invertebrate collection at the United States Geological Survey, Northern Prairie Wildlife Research Center in Jamestown, North Dakota.

We thank Jane E. Austin, Lawrence D. Igl, and Jill A. Shaffer for reviewing earlier drafts of our note.--Bruce A. Hanson, David M. Mushet¹, Ned H. Euliss, Jr., and Steve W. Chordas III. United States Geological Survey, Northern Prairie Wildlife Research Center, 8711 37th Street SE, Jamestown, ND 58401 (BAH, DMM, NHE, Jr.). Ohio State University, Museum of Biological Diversity, 1315 Kinnear Road, Columbus, OH 43212 (SWC). ¹Corresponding author. E-mail address: david_mushet@usgs.gov



Figure 1. Recorded North American distribution of *Corisella inscripta* (Uhler). The star (*) indicates new records reported herein.

LITERATURE CITED

- Chordas, S. W., III, and B. J. Armitage. 1998. New Ohio records of Corixidae (Hemiptera). *Entomological News* 109:339-342.
- Chordas, S. W., III, E. G. Chapman, P. L. Hudson, M. A. Chriscinske, and R. L. Stewart, Jr. 2002. New mid-western state records of aquatic Hemiptera (Corixidae: Notonectidae). *Entomological News* 113:310-314.
- Cochran, B. G., and G. L. Harp. 1990. The aquatic macroinvertebrates of the St. Francis Sunken Lands in northeast Arkansas. *Proceedings of the Arkansas Academy of Science* 44:23-27.

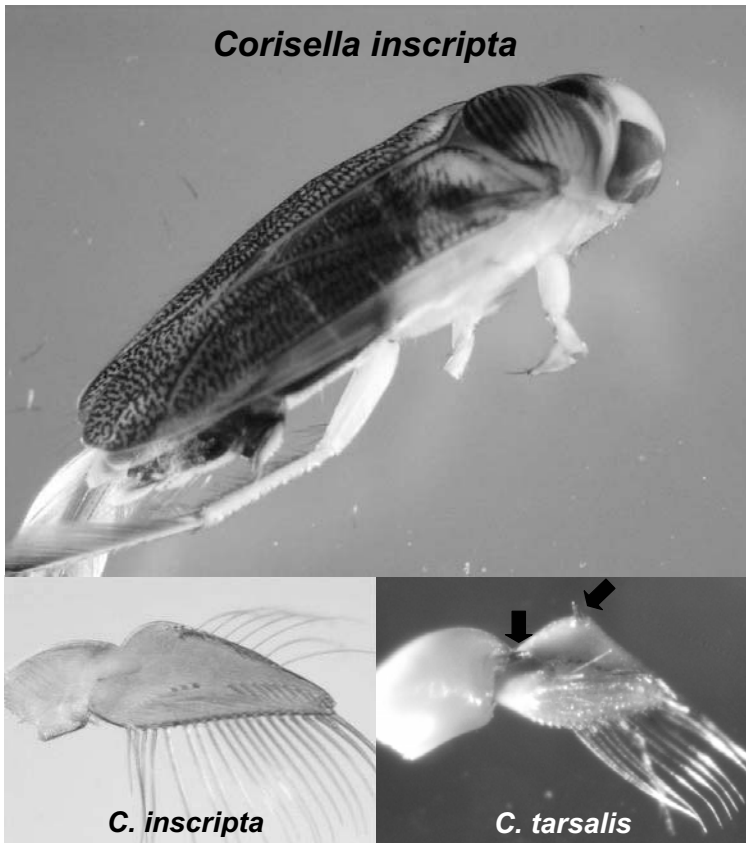


Figure 2. *Corisella inscripta* (Uhler), habitus, male. Cottonwood Lake Study Area, Stutsman County, North Dakota. Tibia and pala of male *C. inscripta* and *C. tarsalis* (Fieber). Note the stout, erect pegs (indicated by arrows) below the apex of the tibia and in the upper palar peg row of *C. tarsalis*.

Euliss, N. H., Jr., D. A. Wrubleski, and D. M. Mushet. 1999. Invertebrates in wetlands of the Prairie Pothole Region: invertebrate species composition, ecology, and management. Pp. 471-514 in *Invertebrates in freshwater wetlands of North America: ecology and management* (D. P. Batzer, R. B. Rader, and S. A. Wissinger, editors). John Wiley and Sons, Inc., New York, New York.

Hungerford, H. B. 1948. The Corixidae of the Western Hemisphere (Hemiptera). University of Kansas Science Bulletin 32:1-827.

- Maw, H. E. L., R. G. Footitt, K. G. A. Hamilton, and G. G. E. Scudder. 2000. Checklist of the Hemiptera of Canada and Alaska. NRC Research Press, Ottawa, Ontario, Canada.
- Polhemus, J. T., R. C. Froeschner, and D. A. Polhemus. 1988. Family Corixidae Leach, 1815, the water boatman. Pp. 93-120 *in* Catalog of the Heteroptera, or true bugs, of Canada and the continental United States (T. J. Henry and R. C. Froeschner, editors). E. J. Brill, New York, New York.
- Roemhild, G. 1976. The aquatic Heteroptera (true bugs) of Montana. Montana Agricultural Experiment Station, Research Report 102. Bozeman, Montana.
- Stewart, R. E., and H. A. Kantrud. 1971. Classification of natural ponds and lakes in the glaciated prairie region. United States Fish and Wildlife Service Resource Publication No. 92, Washington, District of Columbia.
- Swanson, G. A. 1978. Funnel trap for collecting littoral aquatic invertebrates. *Progressive Fish-Culturist* 40:73.
- Swanson, G. A., N. H. Euliss, Jr., B. A. Hanson, and D. M. Mushet. 2003. Dynamics of a prairie pothole wetland complex: implications for wetland management. Pp. 55-94 *in* Hydrological, chemical, and biological characteristics of a prairie pothole wetland complex under highly variable climate conditions - the Cottonwood Lake area, east-central North Dakota (T. C. Winter, editor). United States Geological Survey Professional Paper 1675, Denver, Colorado.
- van der Valk, A. G., and C. B. Davis. 1978. The role of seed banks in the vegetation dynamics of prairie glacial marshes. *Ecology* 59:322-335.
- Winter, T. C., and D. O. Rosenberry. 1998. Hydrology of prairie pothole wetlands during drought and deluge: a 17-year study of the Cottonwood Lake wetland complex in North Dakota in the perspective of longer term measured and proxy hydrological records. *Climatic Change* 40:189-209.

Received: 14 March 2007

Accepted: 6 September 2007

Associate Editor for Invertebrate Zoology: Richard J. Packauskas